

WHAT IS CLAIMED IS:

1. A power management system receiving AC power to supply a manufacturing facility, the system comprising:
  - an emergency cutoff circuit for controlling a power relay selectively connecting the AC power to the facility;
  - a first power controller for storing a DC voltage converted from the AC power and for releasing the DC voltage when a transient power interruption occurs; and
  - a second power controller for supplying an operation voltage to the facility, the operation voltage responding to the DC voltage provided from the first power controller when the transient power interruption occurs.
2. The power management system of claim 1, wherein the operation voltage is a minimum operation voltage to operate the facility, and the second power controller determines a time period wherein the DC voltage decreases to the minimum operation voltage.
3. The power management system of claim 1, wherein the emergency cutoff circuit comprises a trip prevention circuit for causing the power relay to remain turned-on for a predetermined time period that corresponds to a time period of the transient power interruption.
4. The power management system of claim 1, wherein the first power controller comprises:
  - a rectifier for converting the AC power into the DC voltage; and
  - a condenser for storing the DC voltage and for releasing the DC voltage when the transient power interruption occurs.

5. The power management system of claim 4, wherein the first power controller further comprises:

a resistor for buffering an abrupt current increase when the condenser is being charged with the DC voltage;

a diode for transferring the DC voltage from the condenser to an output terminal of the first power controller; and

a display circuit for indicating a discharge state of the condenser during the transient power interruption.

6. The power management system of claim 1, wherein the second power controller comprises:

a condenser for storing the DC voltage supplied from the first power controller;

a transformer having first and second coils and converting the DC voltage into the operation voltage; and

a switch connected to a terminal of the transformer and responding to a control signal to regulate a voltage on the second coil of the transformer.

7. A power management system employed in a manufacturing system including a first device for performing a predetermined manufacturing process to make a product, and a second device for controlling a specific process condition, the power management system comprising:

an emergency cutoff circuit for controlling a power relay selectively connecting the AC power to the manufacturing system;

a power controller for storing a DC voltage converted from the AC power and for

releasing the DC voltage when a transient power interruption occurs; and  
a control device for operating the second device and for supplying an operation  
voltage to the second device through a power supply, the power supply converting the DC  
voltage into an operation voltage for the second device when the transient power interruption  
occurs.

8. The power management system of claim 7, wherein the operation voltage is a  
minimum operation voltage to operate the second device, and the power supplies determines a  
time period wherein the DC voltage decreases to the minimum operation voltage.

9. The power management system of claim 7, wherein the emergency cutoff circuit  
comprises a trip prevention circuit for causing the power relay to remain turned-on for a  
predetermined time period that corresponds to a time period of the transient power  
interruption.

10. The power management system of claim 7, wherein the power controller  
comprises:

a rectifier for converting the AC power into the DC voltage; and  
a condenser for storing the DC voltage and for releasing the DC voltage when the  
transient power interruption occurs.

11. The power management system of claim 10, wherein the power controller further  
comprises:

a resistor for buffering an abrupt current increase when the condenser is being  
charged with the DC voltage;

a diode for transferring the DC voltage from the condenser to an output terminal of the power controller; and

a display circuit for indicating a discharge state of the condenser during the transient power interruption.

12. The power management system of claim 7, wherein the power supply comprises:  
a condenser for storing the DC voltage supplied from the power controller;  
a transformer having first and second coils and converting the DC voltage into the operation voltage; and

a switch connected to a terminal of the transformer and responding to a control signal to regulate a voltage on the second coil of the transformer.

13. A power management system for a manufacturing facility including a plurality of devices, the system comprising:

a first power controller receiving an AC voltage and generating therefrom a first DC voltage, the first power controller storing the first DC voltage and providing the first DC voltage when a transient power interruption occurs to the AC voltage; and

a second power controller receiving the first DC voltage and generating therefrom a second DC voltage, the first power controller storing the second DC voltage and providing the second DC voltage to at least one device in the manufacturing facility when the transient power interruption occurs.

14. The power management system of claim 13, further comprising an emergency cutoff circuit for providing a signal to selectively connect the AC voltage to the first controller, the emergency cutoff circuit including a trip prevention circuit for maintaining a

connection of the AC voltage to the first controller for one second when the transient power interruption occurs.

15. The power management system of claim 13, wherein a voltage level of the DC voltage corresponds to a rectified value of a voltage level of the AC voltage.

16. The power management system of claim 13, wherein the first power controller comprises:

converting means for converting the AC voltage to the first DC voltage; and  
a storage device connected to the converting means and storing the first DC voltage.

17. The power management system of claim 16, wherein the converting means is a diode bridge and the storage device is a condenser.

18. The power management system of claim 16, wherein the first power controller further comprises a display unit connected to the storage device and indicated a discharge state of the storage device.

19. The power management system of claim 13, wherein the second power controller comprises:

converting means for converting the first DC voltage to the second DC voltage; and  
a storage device connected to the converting means storing the second DC voltage.

20. The power management system of claim 13, wherein the converting means includes a step-down transformer.